

CLAIMS

al What is claimed is:

- 1 1. A construction panel comprising:
2 (a) an upper portion; and
3 (b) a lower portion, said lower portion comprising a plurality of
4 vertically extending members wherein each of said vertically extending member is
5 an appropriate size and shape to provide the appearance of a shingle, shake or a tile;
6 wherein the panel is constructed of a material comprising a natural
7 fiber and a synthetic polymer.
- 1 2. The panel of claim 1 wherein the plurality of members have
2 non-uniform width, non-uniform length, or both non-uniform width and non-
3 uniform length.
- 1 3. The panel of claim 1, wherein the plurality of vertically
2 extending members further comprise non-uniform lower edges.
- 1 4. The panel of claim 1, wherein the lower portion of the panel
2 further comprises a textured surface.
- 1 5. The panel of claim 4, wherein the textured surface replicates
2 the appearance of a material selected from the group consisting of wood, clay,
3 ceramic, slate, tile and combinations thereof.
- 1 6. The panel of claim 1, wherein the fiber is a natural plant
2 fiber.

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1 7. The panel of claim 6, wherein the fiber is selected from the
2 group consisting of wood flour, sugar cane bagasse, hemp, coconut coir, jute,
3 kenaf, sisal, flax, coir pith, rice-hulls and cotton, and combinations thereof.

1 8. The panel of claim 1, wherein the polymeric material is
2 polyethylene, polypropylene and combinations thereof.

1 9. The panel of claim 8 wherein the polyethylene is selected
2 from low density polyethylene, high density polyethylene, linear low density
3 polyethylene and linear high density polyethylene.

1 10. The panel of claim 1 wherein adjacent members of the
2 plurality of vertically extending members are connected together by a web of
3 material.

1 11. A construction panel, comprising:
2 (a) from about 40 percent to 75 percent natural fiber;
3 (b) from about 20 percent to 60 percent of a polymeric material;
4 (c) up to about 3 percent coupling agent;
5 (d) up to about 1 percent of UV stabilizer;
6 (e) up to about 0.5 percent antioxidant;
7 (f) up to about 2 percent pigment;
8 (g) up to about 5 percent fungicide; and
9 (h) up to about 20 percent flame retardant.

1 12. The panel of claim 11, wherein the construction panel has an
2 impact rating of class 3 or 4 under UL standard 2218.

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1 13. The panel of claim 11, wherein the fiber is a natural plant
2 fiber.

1 14. The panel of claim 13, wherein the fiber is selected from the
2 group consisting of wood flour, sugar cane bagasse, hemp, coconut coir, jute,
3 kenaf, sisal, flax, coir pith, rice-hulls and cotton, and combinations thereof.

1 15. The panel of claim 11, wherein the polymeric material is
2 polyethylene, polypropylene and combinations thereof.

1 16. The panel of claim 15 wherein the polyethylene is selected
2 from low density polyethylene, high density polyethylene, linear low density
3 polyethylene and linear high density polyethylene.

1 17. A method of manufacturing a construction panel, comprising:

2 (a) mixing:

3 (i) from about 40 percent to 75 percent natural fiber;

4 (ii) from about 20 percent to 60 percent of a polymeric material;

5 (iii) up to about 3 percent coupling agent;

6 (iv) up to about 1 percent of UV stabilizer;

7 (v) up to about 0.5 percent heat stabilizer;

8 (vi) up to about 1 percent colorant;

9 (vii) up to about 5 percent fungicide; and

10 (viii) up to about 20 percent flame retardant;

11 to form a homogenous mixture;

12 (b) placing the homogenous mixture in an open mold in the shape of

13 a construction panel; and

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14 (c) molding the homogenous mixture into a construction panel by
15 compressing the homogenous mixture into the mold.

1 18. The method of claim 17 wherein said mold comprises a die
2 for forming:
3 (i) an upper portion; and
4 (ii) a lower portion; said lower portion comprising a plurality of
5 vertically extending members wherein each of said vertically extending member is
6 an appropriate size and shape to provide the appearance of a shingle, shake or a tile.

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